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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/727,008	12/03/2003	Robert W. Stadler	P-11119.00	4507
27581	7590	03/12/2008		
MEDTRONIC, INC. 710 MEDTRONIC PARKWAY NE MINNEAPOLIS, MN 55432-9924			EXAMINER ALTER, ALYSSA M	
			ART UNIT	PAPER NUMBER
			3762	
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			03/12/2008	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/727,008	<b>Applicant(s)</b> STADLER ET AL.	
	<b>Examiner</b> ALYSSA M. ALTER	<b>Art Unit</b> 3762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 September 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,4-21,24-41 and 44-57 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on September 18, 2007 has been entered.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1, 4-21, 24-41 and 44-57 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 4-15, 19-20, 45-53 and 56 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims are vague and appear to be method claims since it provides no further structure, but a mere recitation of intended use for such structure.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1, 4, 13-17, 19-21, 24, 33-37, 39-41, 44, 49-53 and 55-57 are rejected under 35 U.S.C. 102(b) as being anticipated by Wahlstrand et al. (US 5,271,395).

Wahlstrand et al. discloses a rate responsive cardiac pacemaker with minute ventilation circuitry that collects impedance waveforms and calculates long term and short term weighted averages.

“The time-course of the impedance waveform represents the minute ventilation parameter which will be measured for the purposes of the present disclosure in units of  $\Omega \times$  (breaths per minute), hereinafter referred to as "Wallys" and symbolized by the Greek letter  $\Psi$ . In accordance with the presently disclosed embodiment of the invention, pacemaker 10 computes two average values which are updated every two seconds. The first average value is the average number of Wallys occurring in each of the sixteenth two-second intervals during the previous thirty-two seconds; this value shall be referred to as the short-term Wally average. The second average value is the average number of Wallys occurring in each of the 1024 two-second intervals during the previous 2048 seconds; this average value shall be referred to as the long-term Wally average. Every two seconds, the relative difference between the long-term Wally average and the short term Wally average is used to determine the impedance-based

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target pacing rate. That is, every two seconds, the difference between the long-term Wally average and the short-term Wally average is compared to the value of this difference computed two seconds before. This relative difference value represents the short-term change in respiratory impedance, and has units of  $\Omega \times$  (breaths, per minute, per second), hereinafter referred to as "Wallys per second" and symbolized by the Greek letter  $\Psi$ . Every two seconds, the relative difference between the long-term Wally average and the short term Wally average is used to determine the impedance-based target pacing rate. That is, every two seconds, the difference between the long-term Wally average and the short-term Wally average is compared to the value of this difference computed two seconds before. This relative difference value represents the short-term change in respiratory impedance, and has units of  $\Omega \times$  (breaths, per minute, per second), hereinafter referred to as "Wallys per second" and symbolized by the Greek letter  $\Psi$ "(col. 8, lines 28-54).

As such, the examiner considers the long term weighted average to be the adaptive baseline trend and the short term weighted average to be the short term trend. Furthermore, since the difference between the short term, short term trend, and long term, adaptive baseline trend, is determined, there is thus a means for accumulating a difference.

As to claims 4, 24, "This initializes the difference, DZ (STA-LTA) to zero, (where DZ is the Limited Positive Difference)" (col. 10, lines 40-41).

As to claims 15, the impedance measurements are determined and thus generated between 12pm and 5pm.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 5-12, 25-32, 45-48, rejected under 35 U.S.C. 103(a) as being unpatentable over Wahlstrand et al. (US 5,271,395). Wahlstrand et al. discloses the claimed invention except for the first computation scheme differing from the second computation scheme. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the computation algorithms, in order to yield the predictable results of modifying the therapy to meet specific patient needs and requirements.

As to claim 8, 12, 28, 32 and 48, Wahlstrand et al. discloses the claimed invention except for the predetermined number of generated measured impedances, wherein the number is 4. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the number of measured impedances, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233 (see MPEP 2144.05). Furthermore, such a modification would yield the predictable results of modifying the therapy to meet specific patient needs and requirements.

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As to claim 18, 38 and 54, Wahlstrand et al. discloses the claimed invention except for the specific value of ohms. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the specific value of ohms in the downdrift and updrift, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233 (see MPEP 2144.05).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALYSSA M. ALTER whose telephone number is (571)272-4939. The examiner can normally be reached on M-F 9am to 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Angela Sykes can be reached on (571) 272-4955. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/George R Evanisko/  
Primary Examiner, Art Unit 3762

/Alyssa M Alter/  
Examiner  
Art Unit 3762